

Abstract:

Page 39, in the abstract section, replace with the following new abstract paragraph:

Abstract of the Disclosure

--- A dual-mode ultra wideband (UWB) communication[[s]] (UWB) transceiver is ~~provided~~ presented [[for]] to implement[[ing]] two disparate systems [[of]] for indoor and outdoor UWB operations. ~~according to some embodiments. The dual-mode UWB transceiver may be utilized to selectively transmit and receive UWB signals in a way either indoor or outdoor systems. During indoor or outdoor an operation mode, the dual-mode UWB communication transceiver sends and receives [[the]] indoor or outdoor UWB signals using [[the]] indoor or outdoor programmable filters[.] with a multichannel-based multicarrier modulator and downconverter. The dual-mode UWB communication transceiver along with novel transmitter and receiver architectures is able to selectively transmit and receive a very-high data rate with scalability and programmability in an indoor and/or outdoor environment. In the transmitter mode, the dual-mode UWB transceiver can select one of the two digital enlarged band transmitter FIR filters with coupling to one common digital rejected image FIR filter to substitute one narrow band digital interpolation transmitter FIR filter for the indoor or outdoor UWB operation. In the receiver mode, the dual-mode UWB transceiver can select one of two programmable digital filters used in either indoor or outdoor UWB signals.~~